DOCUMENT RESUME

ED 352 630 CS 011 128

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TITLE Guidelines for Computer-Assisted Reading Instruction. ERIC Digest.
INSTITUTION ERIC Clearinghouse on Reading and Communication Skills, Bloomington, IN.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
REPORT NO EDO-CS-93-02
PUB DATE 93
CONTRACT RI88062001
NOTE 4p.
AVAILABLE FROM ERIC Clearinghouse on Reading and Communication Skills, Indiana University, 2805 E. 10th St., Suite 150, Bloomington, IN 47408-2698.
PUB TYPE Information Analyses - ERIC Clearinghouse Products (071)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Assisted Instruction; Elementary Education; Guidelines; Language Arts; Reading Comprehension; *Reading Instruction; Reading Writing Relationship; Student Participation; Text Structure
IDENTIFIERS ERIC Digests

ABSTRACT

Focusing on how teachers can integrate computers into reading/writing instruction, this ERIC digest presents guidelines for helping language arts teachers match their use of computers with what is known about the reading/writing process. The guidelines for computers and reading presented in the digest point out that computer instruction in reading should: (1) focus on meaning and stress reading comprehension; (2) foster active involvement and stimulate thinking; (3) support and extend students' knowledge of text structures; (4) make use of content from a wide range of subject areas; (5) link reading and writing. (RS)

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Guidelines for Computer-Assisted Reading Instruction

by Marjorie R. Simic

Discussions concerning computer use in education have rapidly passed through a number of phases. The first phase centered on the need for "computer literacy," generally defined as computer awareness and computer programming. At the height of the computer literacy debate, emphasis shifted to the role of the computer as a tool, and as a method for teaching problem solving. Most recently, attention among educators has turned to yet a third phase. This third phase addresses issues related to computer applications in support of the curriculum.

Research studies (Reinking, 1988) indicate clearly that computer instruction is effective for a wide variety of reading skill and concept areas. The level of popularity of computer-based instruction in reading may vary, but few will dispute the fact that computers have won a permanent place in most classrooms. The most common concerns of educators now have to do with the effectiveness of computer-based education, and with the appropriateness of the many possible roles computers can play in language arts instruction.

The emphasis should not be on using computers to increase reading and writing achievement, but rather on whether teachers use computers for meaningful reading and writing instruction, or are locked into computer-based drill and practice software. This digest will focus on how teachers can integrate computers into reading/writing instruction.

The following guidelines may also be used as a checklist to help teachers of the language arts match their use of computers with what is known about the reading/writing process. We hope that the checklist will be used in a context where students are given opportunities to work in all the various computer modes: tool, tutor, and tutee.

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Guidelines for Computers and Reading

1. Computer instruction in reading should focus on meaning and stress reading comprehension.
   - Learners should have opportunities to work with whole, meaningful texts. Programs that offer learners a chance to process large chunks of related text, rather than bits and pieces of unrelated language fragments, allow students to use and extend what they know about reading comprehension.
   - Learners should have opportunities to work with word-recognition programs that stress the use of word meanings in conjunction with phonics and structural analysis. Care must be taken to make sure that, when programs feature the study of individual words and phrases, they are offered within a contextual framework that help them make sense to the learner. Assessment programs for teachers should also be provided in meaningful context.
   - Learners should have the opportunities to apply the skills being taught in some meaningful way. Programs that deny the learner an opportunity to make use of what is being "taught" are merely assessment tools and do little to further the learner's growth.
   - Learners should have the opportunity to work with computer materials that use content and language that are within the range of their conceptual development. Tasks should be challenging but not frustrating. Student interests, previous experiences, and purpose play a role in determining whether or not a computer task is comprehensible and worthwhile.

2. Computer instruction in reading should foster active involvement and stimulate thinking.
   - Learners should have opportunities to discuss the purpose of the computer task or program as well as its nature. They should be aware not only of what they are supposed to do but also of why doing it is important.
   - Learners should have opportunities to make decisions that control or influence the computer task. Programs that build in opportunities for students to make choices and test predictions help them learn to think and act on their own rather than merely react to someone else's thinking.
   - Learners should have opportunities to monitor their own learning. Tasks that offer students opportunities to self-check and correct their own errors support the development of independent learners.
3. Computer instruction in reading should support and extend students' knowledge of text structures.
   - Learners should have opportunities to encounter a wide variety of text structures upon which to apply and refine their comprehension skill. A variety of narrative and expository structures should be provided. Commercially prepared, teacher-authored, and student-authored materials should also be included. Reading instruction can take place through all kinds of computer-based materials, not merely those designated specifically for that purpose.
   - Learners should have opportunities to experiment with text in creative ways to suit their purposes. When students reorganize a story or an informational piece on the computer, they are employing and strengthening what they know about the structure of texts.
4. Computer instruction in reading should make use of content from a wide range of subject areas.
   - Learners should have opportunities to use the computer as a means of applying reading strategies to all areas of the curriculum. Programs related to science, social studies, and math require the use of strategies for reading comprehension.

Unless students are being helped to use what they know about reading comprehension under these circumstances, they are not progressing as competent readers.

   - Learners should have opportunities to use the computer in conjunction with other modes of instruction. The computer should not operate as a separate and isolated means of learning. Its use should be integrated with that of books and other learning materials. Students need to think of the computer as one additional means of sharing and retrieving information and practicing skills in interesting and meaningful ways.
5. Computer instruction in reading should link reading and writing.
   - Learners should have opportunities to create text with the computer for sharing and use by others. When students enter information into the computer for someone else to retrieve and use, they must compose with the reader in mind. This frequently involves making explicit use of what they know about what makes a text comprehensible. Revision and proofreading strategies clearly involve the combined application or reading and writing skills.

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This publication was prepared with funding from the Office of Educational Research and Improvement, U.S. Department of Education, under contract no. RI88062001. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgment in professional and technical matters. Points of view or opinions, however, do not necessarily represent the official view or opinions of the Office of Educational Research and Improvement.